

Claims

Claims 1-21 (canceled)

22. (currently amended) A kit for use in a method of making substantial replicas of a biomolecular content of a biological sample, which method comprises:

(a) providing a plurality of membranes in a stacked or layered configuration;

(b) providing a biological sample containing biomolecules, which biomolecules have a relative relationship to each other in at least two dimensions within the biological sample; and

(c) applying the biological sample to the plurality of membranes under conditions that allow multiple membranes to capture at least a portion of the biomolecules from the biological sample so as to create multiple substantial replicas of the biomolecular content of the biological sample, and wherein each of the substantial replicas maintains the relative relationship of the biomolecules;

wherein the kit comprisescomprising:

a stack of membranesarray for detecting biomolecules in a sample, said array stack comprising a plurality of membranes each of which are separable from said stack, wherein each of said plurality of membranes has substantially a same affinity for said biomolecules transferred from said biological sample, and wherein the stack of membranes is provided in a configuration adapted to be brought into contact with the biological sample so as to create multiple substantial replicas of the biomolecular content of the biological sample, which substantial replicas maintain the relative relationship of the biomolecules; and

containers of antibodies or probes for detecting biomolecules captured on each membrane;

wherein said membranes are separable from each other.

23. (original) The kit according to claim 22 wherein said membranes comprise a polymer substrate coated with a material for increasing an affinity of said substrate to said biomolecules.

24. (previously presented) The kit according to claim 23 wherein said coating material comprises nitrocellulose.

25. (currently amended) The kit according to claim 22 wherein said antibodies or probes are specific capture molecules for biomolecules sought to be detected on particular membranes of said ~~array~~arraystack.

26. (original) The kit according to claim 25 wherein each container contains an antibody cocktail.

27. (Canceled)

28. (original) The kit according to claim 22 wherein said plurality of membranes each have a thickness of less than about 30 microns.

Claims 29-31 (canceled)

32. (previously presented) The kit of claim 22, wherein each of said plurality of membranes comprises a porous substrate having a thickness of less than 30 microns and no less than 4 microns.

33. (previously presented) The kit of claim 22, wherein said plurality of membranes comprises 50 or more of said membranes.

34. (previously presented) The kit of claim 22, wherein one or more of said membranes comprise a material for increasing an affinity of at least one of said membranes to the biomolecules.

35. (previously presented) The kit of claim 34, wherein said material is coated on one or more of said membranes.

36. (previously presented) The kit of claim 34, wherein said material for increasing affinity is selected from the group consisting of nitrocellulose, poly-L-lysine, and mixtures thereof.

37. (previously presented) The kit of claim 32, wherein said porous substrate comprises polycarbonate, cellulose acetate, or mixtures thereof.

38. (currently amended) The kit of claim ~~36~~37, wherein said porous substrate is a polycarbonate substrate.

39. – 43. (canceled)

44. (currently amended) A kit for use in a method of making multiple substantial replicas of a biomolecular content of a tissue sample, which method comprises:

providing a stack of membranes, wherein said membranes permit biomolecules from said tissue sample applied to said stack to move through multiple of said membranes, while capturing at least a portion of said biomolecules on the multiple membranes; and

applying said tissue sample to said stack of membranes, under conditions that (a) allow at least a portion of said biomolecules to elute from the sample through the stack of membranes, and (b) allow said multiple membranes to capture at least a portion of said biomolecules from said tissue sample, thereby forming said multiple substantial replicas of the biomolecular content of the tissue sample, wherein the biomolecules have a relative relationship to each other in at least two dimensions within the tissue sample, and wherein each of the substantial replicas maintains the relative relationship of the biomolecules,

the kit comprising:

a stack of membranes, said stack of membranes comprising ~~a plurality of~~5-10 membranes each of which is separable from the ~~array stack~~ after said tissue sample is applied thereto, wherein each of said ~~plurality of~~ membranes has substantially a same affinity for said biomolecules, comprises a porous polycarbonate substrate having a thickness of less than 30

microns and no less than 4 microns, and is coated with nitrocellulose, and wherein the stack of membranes is provided in a configuration adapted to be brought into contact with the tissue sample so as to create multiple substantial replicas of the biomolecular content of the tissue sample, which substantial replicas maintain the relative relationship of the biomolecules; and
containers of antibodies or probes for detecting biomolecules captured on each membrane.

45. (new) The kit of claim 22, wherein the stack of membranes comprises 5-10 membranes.

46. (new) A kit for use in a method of making multiple substantial replicas of a biomolecular content of a tissue sample, comprising:
a stack of membranes, said stack of membranes comprising 5-10 membranes each of which is separable from the stack after said tissue sample is applied thereto, wherein each of said membranes has substantially a same affinity for said biomolecules, comprises a porous polycarbonate substrate having a thickness of less than 30 microns and no less than 4 microns, and comprises a nitrocellulose coating, and wherein the stack of membranes is provided in a configuration adapted to be brought into contact with the tissue sample so as to create multiple substantial replicas of the biomolecular content of the tissue sample, which substantial replicas maintain the relative relationship of the biomolecules; and
containers of antibodies or probes for detecting biomolecules captured on the membranes.